

REMARKS

The abstract and specification have been amended in order to correct grammatical and idiomatic errors contained therein. No new matter has been added.

In order to expedite the prosecution of the present application, Claims 1 and 2 have been amended in order to more particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Claims 9 and 10 have been amended in order to address the Examiner's rejection under 35 USC 112, second paragraph. Newly presented Claims 15 and 16 are directed to preferred embodiments of the present invention. No new matter has been added.

As stated above, the amendments to Claims 9 and 10 have addressed the rejection under 35 USC 112, second paragraph. Claims 1-4 and 6-10 have been rejected under 35 USC 103(a) as being unpatentable over Bereman in view of Garrido et al. Claim 4 has been rejected under 35 USC 103(a) as being unpatentable over Bereman in view of Garrido et al and further in view of Baur et al. Claims 11-14 have been rejected under 35 USC 103(a) as being unpatentable over Bereman in view of Garrido et al and further in view of Hershe et al. Applicants respectfully traverse these grounds of rejection and urge reconsideration in light of the following comments.

The presently claimed invention is directed to a tobacco smoke filter which contains activated carbon having a micropore volume provided by micropores of under 2 nm pore diameter of at most $0.3 \text{ cm}^3/\text{g}$ (N_2) and at least one of mesopores of 2 to 50 nm pore diameter having a mesopore volume of at least $0.25 \text{ cm}^3/\text{g}$ (N_2) and mesopores of 7 to 50 nm pore diameter having a mesopore volume of at least $0.12 \text{ cm}^3/\text{g}$ (Hg).

As discussed in the present specification, the present invention provides a tobacco smoke filter which is able to provide a satisfactory level of a flavourant delivery while still managing to remove vapour phase components from the tobacco smoke. In order to achieve this combination of

features, it is necessary that the filter contain activated carbon having a micropore relationship as defined by the present claims. It is respectfully submitted that the prior art cited by the Examiner does not disclose the presently claimed invention.

The Bereman reference discloses a method and product for removing carcinogens from tobacco smoke and, in particular, to catalytic systems containing a metallic catalyst and carbonaceous particles that serve as a support for the catalyst which reduce the content of certain harmful or carcinogenic substances, including polyaromatic hydrocarbons, tobacco-specific nitrosamines, carbazole, phenol, catechols, in both mainstream cigarette smoke and sidestream cigarette smoke. As admitted by the Examiner, this reference has no disclosure with respect to controlling the pore size contained in the activated carbon. This is because the carbon only serves as a support. Therefore, the secondary Garrido et al reference must provide the motivation to one of ordinary skill in the art to modify Bereman in a way that would yield the presently claimed invention. It is respectfully submitted that the secondary reference contains no such disclosure.

The Garrido et al reference discloses the effect of gasification by air or carbon dioxide in the development of microporosity in activated carbons. However, there is no suggestion in this reference with respect to activated carbon being used for the filtration of tobacco smoke or that the presently claimed pore structure would provide activated carbon with the unexpected benefit of adequate flavourant release and absorption of vapor phase components from tobacco smoke. Therefore, Applicants respectfully submit that Garrido et al and Bereman in combination have no disclosure or suggestion with respect to the presently claimed micropore relationship in achieving the effects associated with the presently claimed invention. As such, a showing of prima facie obviousness under 35 USC 103(a) has not been made by the Examiner.

The Baur et al reference discloses a process for the catalytic hydrogenation of carbocyclic compounds having olefinic double linkages. This reference has been cited by the Examiner as disclosing macroporous activated carbon having a surface area of about 1-8 m²/g. However, the utility disclosed in this reference is at odds with the utility disclosed in the primary Bereman reference and there is no teaching in this reference which would suggest that combining any disclosure contained therein with the primary reference would be beneficial. Once again, Applicants respectfully submit that the Examiner is taking bits and pieces out of the individual references and combining them in light of the present disclosure to the total disregard of the teachings of the references as a whole. As such, it is respectfully submitted that Bereman in combination with Garrido et al and Baur et al does not even present a showing of prima facie obviousness under 35 USC 103.

The Hershe et al reference discloses a composition for inclusion within a cigarette, cigar or pipe. The composition comprises L-glutathione and a source of selenium. This reference has been cited by the Examiner as disclosing the use of a menthol flavor in a cigarette filter. However, nothing in this reference suggests that an activated carbon contained in a filter used in filtering tobacco smoke could both absorb vapor phase components contained in tobacco smoke and still adequately release a flavourant. Therefore, this reference in combination with any of the previously cited references does not even present a showing of prima facie obviousness under 35 USC 103(a).

Although the references cited by the Examiner do not present a proper showing of prima facie obviousness under 35 USC 103(a), objective evidence of the unobviousness of the presently claimed invention is contained in the present specification. In the Examples contained on pages 5-9 of the present specification, Examples B, C, D and H utilize activated carbon according to the present invention while

Comparative Example A used a coconut-based carbon as is typically used in prior cigarette filters and Comparative Examples E-G and I-M used carbons having a pore structure outside of the present invention but closer to the present invention than the prior art cited by the Examiner. As can be seen by the results contained in the Table on pages 8 and 9 of the present specification, the activated carbon according to the present invention provided both the effective removal of vapor phase components from tobacco smoke and yet still had an improved release of the flavourant as compared with the comparative carbons. This is clearly unexpected in light of the prior art cited by the Examiner and further establishes the patentability of the presently claimed invention thereover.

The Examiner is respectfully requested to reconsider the present application and to pass it to issue.

Respectfully submitted,


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